AMERICAN MUSEUM NOVITATES

Number 463 | Published by THE AMERICAN MUSEUM OF NATURAL HISTORY New York City | Mar. 21, 1931

59.57,72 D

DESCRIPTIONS OF NEW SPECIES OF *DIASEMOPSIS* RONDANI (DIOPSIDÆ, DIPTERA)

BY C. H. CURRAN

At the time of his death, Dr. E. Brunetti was engaged in the preparation of a monographic revision of the Diopsidæ, a project which had also been commenced by the author. Through the kindness of Dr. G. A. K. Marshall, the Brunetti manuscript has been in my hands for a considerable time and the notes made by Brunetti, who examined many of the types, have been of great assistance in identifying some of the older species. Unfortunately, he failed to recognize the importance of several characters, such as the extent of pollen on the thorax and the sculpturing of the front. The notes prepared by Dr. Brunetti are reserved for consideration at such time as it may be possible to prepare a thorough revision of the family. The descriptions herein published are presented in order that the names of the new species may be available in connection with a paper by Dr. Roland Thaxter, dealing with fungi attacking these flies.

The largest single collection of diopsids examined by the author was forwarded by Dr. Thaxter and contained more than three hundred specimens of *Diasemopsis*. Most of the material before me at the present time has been brought together during the past four or five years and I wish to express my appreciation to all those who have so generously coöperated in furnishing specimens. The collection received from Dr. Thaxter is to be shared by the American Museum and the Museum of Comparative Zoölogy. These specimens are from Cameroon, West Africa, and were collected and placed in glycerine in order to preserve any fungi attacking them. Specimens bearing fungi are recorded with a Thaxter number; all other specimens recorded from Cameroon without collector's name are from Dr. Thaxter and examples of the various species will be found in the Museum of Comparative Zoölogy. Unless otherwise stated, the holotypes are in The American Museum of Natural History.

TABLE OF GENERA OF DIOPSIDÆ

1. Thorax with only one pair of spines, arising on the hypopleura.....2.
   Thorax with two pairs of spines, the anterior pair arising on the mesonotum above the base of the wings.....*Teleopsis* Rondani.
2. Mesonotum with a pair of intra-alar bristles.....3.
   Mesonotum without intra-alar bristles.....*Diopsis* Linnæus.
3. Scutellum longer than deep, without bristles.....4.
   Scutellum very short, as deep as long, with a pair of erect, black bristles on the disc.....*Diopsina* Curran.
4. Eye-stalks little longer than wide, frontal bristles at base of eye-stalks. *Sphyracephala* Say.
   Eye-stalks several times longer than wide, the bristles situated on the eye-stalks, near or beyond the middle.....*Diasemopsis* Rondani.

Diasemopsis Rondani

This genus was originally established for species having a bristle at the tip of the scutellar spines. However, the bristles break off very easily and evidently some of the species lack them. The presence of a mesonotal bristle near the posterior calli, absence of scutellar bristles, and elongate eye-stalks are the characters distingushing *Diasemopsis* from the other genera of the family. Even though the mesonotal bristles may be broken off it is usually possible to see the scar. The genus itself may be divided into two distinct groups: viz., (*a*) oral margin with a strong tooth on either side; (*b*) oral margin unarmed, notopleural bristle present or absent.

Diasemopsis æthiopica Rondani is the type of the genus and belongs to the second group. The notopleural bristle is seldom strong and the character can be used only specifically, and even so, the scar left by this bristle, when broken off, is not always easy to see. Owing to the fact that the presence of the notopleural bristle has been mentioned by only two authors it is not possible to use it as a character for the separation of groups and I have been forced to ignore it, since the genus contains several species known to me only from description.

It will be noted that I have included both *dubia* Bigot and *incerta* Eggers in the key to species although I feel fairly certain that both names refer to the same species. Doubt as to the identity of *dubia* exists, since Brunetti retained it in *Diopsis* and Mr. Collin, in whose collection the type is to be found, furnished notes (to Dr. Brunetti) indicating the absence of the mesonotal bristles. Nevertheless, the description indicates that *dubia* belongs to *Diasemopsis* and I suspect that the bristles have been broken off. Should *dubia* prove to be a true *Diopsis*, the species herein recorded would be known as *incerta* Eggers; on the other

hand, if both belong in *Diasemopsis*, the name *incerta* should probably be considered a synonym of *dubia*.

I have redescribed the species which I feel certain is *æthiopica* Rondani and included a list of the synonyms. Redescriptions of the other species and detailed illustrations are reserved for the revision of the family as a whole. The following species, described by Brunetti, are not included in the key: *apicifasciata*, *fuscapicis* and *sexnotata*.

TABLE OF SPECIES

1. Collar (prothorax) reddish or yellowish....2.
   Collar black or brown....8.
2. Wings distinctly fasciate across the middle, the fascia usually connected with the brown clouded anterior cross-vein....4.
   Wings not fasciate across the middle....3.
3. Abdomen dull yellowish brown, not spotted with white..*macrophthalma* Dalman.
   Abdomen yellowish brown, with white spots and bands....*signata* Dalman.
4. Mesonotum wholly shining....*pulchella* Eggers.
   Mesonotum pollinose at least on the anterior half....5.
5. Front with several transverse, arcuate depressions in the middle...*horni*, n. sp.
   Front without transverse grooves....6.
6. Mesonotum practically entirely pollinose, only the sutures bare....7.
   Mesonotum shining on more than the lateral third behind the sutures. *quadrata*, n. sp.
7. Fourth abdominal segment wholly pollinose....*albifacies*, n. sp.
   Fourth abdominal segment with an interrupted shining fascia occupying more than the posterior half....*interrupta*, n. sp.
8. Facial teeth present, though they may be small....9.
   Facial teeth absent....15.
9. Wings with a narrow, incomplete median brownish facia....10.
   Wings with a very broad median fascia, longitudinally streaked, with apical spot, or unicolorous....11.
10. Femora reddish yellow....*breviseta* Bezzi.
    Femora reddish brown or black, the anterior pair sometimes largely brownish red....*meigenii* Westwood.
11. Wings brownish across the middle and with a large, brown apical spot. *coniortodes* Speiser.
    Wings differently colored....12.
12. Head black....*robusta* Brunetti.
    At least the face reddish or yellow....13.
13. Facial spines long and strong....14.
    Facial spines short (*fucata* Macquart, ♂)....*terminata* Macquart.
14. Middle of front carinate, polished castaneous, without trace of pollen....29.
    Middle of front very gently convex, and thinly covered with whitish pollen. *elongata*, n. sp.
15. Collar at least broadly shining black laterally or in front....16.
    Collar with at most a linear lateral shining black stripe....24.

16. Abdomen with well-developed pale fasciæ or shining spots.....17.
Abdomen with at most traces of pale, narrow apical fasciæ on segments three and four.....22.
17. Humeri mostly shining; bristle on eye-stalks always long and strong.....19.
Humeri opaque brownish or the bristle on the eye-stalks minute.....18.
18. Bristle of eye-stalks short and weak.....*æthiopica* Rondani.
Bristle of eye-stalks long and strong.....31.
19. Front with one to three transverse, arcuate ridges above.....30.
Front with longitudinal grooves and ridges.....20.
20. Median and apical brown markings of the wing broadly separated.....21.
Median and apical brown markings of the wing very broadly connected along the third vein.....*conjuncta*, n. sp.
21. Anterior femora greatly swollen.....*pleuritica*, n. sp.
Anterior femora not greatly swollen.....*nebulosa*, n. sp.
22. Wings almost uniform in color, a little darkened apically...*concolor* Westwood.
Wings brownish in the middle.....23.
23. Front tarsi brown.....*subfuscata* Brunetti.
Front tarsi uniformly reddish yellow; notopleural bristle long..*hirsuta*, n. sp.
24. Notopleural bristle absent.....25.
Notopleural bristle present.....*æthiopica* Rondani
25. Fourth abdominal segment black, uniformly thinly white pollinose. *obstans* Walker.
Fourth segment with contrasting colors.....26.
26. Pale abdominal fasciæ on the intermediate segments strongly widened laterally or strongly narrowed or interrupted in the middle.....27.
Pale fasciæ only a little widened laterally.....*fasciata* Gray.
27. Wings with a sharply defined apical spot on the third vein....*silvatica* Eggers.
Wings, if darkened at the apex, diffusely so.....28.
28. Scutellar spines arising at an angle of about 45°.....*dubia* Bigot.
Scutellar spines arising at an angle of less than 45°.....*incerta* Eggers.
29. Expanse of eye-stalks at least 3 mm. greater than length of body. *longipedunculata* Brunetti.
Expanse of eye-stalks at most 1 mm. greater than length of body. *disconcerta*, n. sp.
30. Front with two or three transverse, arcuate ridges below the ocelli. *amorus*, n. sp.
Front with one transverse, broad ridge below the ocelli; wings not distinctly banded.....*thaxteri*, n. sp.
31. Front with a longitudinal ridge; wings strongly clouded across the middle. *dejectus*, n. sp.
Front with transverse, arcuate striæ and carinæ; wings faintly clouded across the middle.....*munroi*, n. sp.

Diasemopsis horni, new species

This species apparently is most closely related to *pulchella* Eggers but the abdomen shows a more extensive white pollinose pattern and the mesonotum is brown pollinose in front of the suture except on the sides. The presence of arcuate frontal

grooves at once separates *horni* from the three related species herein described. Unfortunately no detailed description of the front of *pulchella* was given by Eggers and the type must be examined in order to determine the exact status of the species. The length of *horni* is from 4.25 to 5 mm., the width of the head from 2.5 to almost 3 mm.

MALE.—Head varying from ferruginous reddish to ferruginous, the ocellar triangle and apices of the eye-stalks blackish, the cinereous pollen quite thin; hair moderately abundant and fairly long. Eye-stalks of moderate length and rather thin, the setigerous tubercle almost as long as wide, the seta long and strong; post-ocular seta strong. Antennæ dull reddish, the arista mostly black. Immediately in front of the ocellar triangle is a low tubercle which bears on either side a roughened pit; in front of the tubercle three anteriorly arched, broad, roughened grooves are very conspicuous. Proboscis and palpi pale ferruginous.

Thorax black or castaneous, the anterior half of the mesonotum brown pollinose except on the sides; anterior third of the pleura thinly white pollinose; scutellum densely reddish-brown pollinose. Scutellar spines long, sub-erect, strongly curved backwards near the apex; no setæ present on the specimens before me.

Legs rusty reddish, yellowish or pale ferruginous, the posterior femora very broadly darker apically; anterior four coxæ and usually the tarsi, yellowish. Anterior femora moderately swollen, the two ventral rows of stout setæ not extending quite so close to the base as usual; two posteroventral and three anteroventral bristles on the apical third, the hair quite long and fairly abundant.

Wings hyaline; anterior cross-vein, a narrow, short fascia extending over the posterior cross-vein but not reaching the second vein, and the apex of the wing between the second and fourth veins, amber or brownish-amber in color. Halteres reddish yellow.

Abdomen blackish or castaneous, with brown and white pollen. First segment brown pollinose, the anterior third shining on the sides, in the middle with a large, oval, white pollinose spot on the anterior half, behind with a subrectangular white spot in the middle, the sides broadly shining. Second segment brown pollinose, at the base with a median subcordate white spot which is continued backward as a slender median line, at either side of the apex with a large, subrectangular, slightly oblique white spot. Third segment brown pollinose on the basal half, the apical fifth white pollinose except at the sides; sides in front also shining. Fourth and following segments shining, the fourth with a subtriangular basal spot of white pollen on either side.

FEMALE.—Differs only sexually.

TYPES.—Holotype and allotype, Cameroon. Paratypes: male, Victoria, Cameroon (Preuss), two males, Cameroon (Conradt), in Deutsches Entomologisches Museum; two males, Sa Jsabel, Fernando Po, February 9, 1900 and March 12, 1900 (L. Conradt); male, Arebi (Bondo Mabé), Congo, July 26, 1925 (H. Schouteden), in Musée du Congo Belge; two males, Cameroon.

It gives me pleasure to name this pretty little species in honor of Dr. Walther Horn, who has furnished me with much material belonging to the Diopsidæ.

Diasemopsis quadrata, new species

This species is readily distinguished from *pulchella* Eggers by the medianly and anteriorly pollinose mesonotum and the characters given in the key will prove sufficient for its recognition. Face pale yellow; thorax brown; abdomen blackish and pale reddish, with white markings. Length, about 4 mm.; width of head, about 2.35 mm.

FEMALE.—Face yellow, white pollinose; front brownish yellow, with thin whitish pollen. Eye-stalks rather short and thick, ferruginous above, brown below, the base white pollinose dorsally, thinly brown pollinose elsewhere; dorsal median tubercle small, the seta long; postocular tubercle very small (the seta broken off). Antennæ brownish yellow, the third segment pale pollinose; arista brown, its base broadly yellowish. Front smooth, with a very weak, raised median line; face gently convex in profile, protuberant below, not conspicuously concave above the oral margin; teeth absent. Head practically without hair; proboscis and palpi yellow.

Thorax shining brown, the mesonotum in front of the suture, a broad median vitta behind the suture, the humeri and the scutellum, brown pollinose; pleura below and posteriorly, obscurely pollinose. Collar brownish red, darker behind. Scutellar spines reddish brown, long, gently curved; scutellum with very few hairs.

Legs reddish yellow, coxæ reddish brown, the anterior pair paler. Femora brownish as follows: basal third of the anterior pair, the middle pair except a broad median band, and the posterior pair on the second and last fourth; posterior tibiæ brownish on the basal third. Anterior femora strongly enlarged, beneath with the usual short, stout setulæ forming two rows on the apical three fourths, and a row of bristles on either side of the apical half.

Wings hyaline, with amber-colored markings. The fascia at the middle of the wing is very broad, extending between the anterior and posterior cross-veins, narrowed in front where it scarcely reaches the second vein, and more or less broadly separated from the posterior margin of the wing; the diffuse apical darkening extends broadly between the second and fourth veins.

Abdomen brown, ferruginous and yellowish in ground color, mostly pollinose. First segment brown pollinose, the posterior fourth white, the anterior and posterior corners each bearing a large, subrectangular shining spot; second segment dull brown, with an incomplete, broad whitish fascia in front and large, somewhat tessellate, subquadrate spots on the posterior corners, in front with a subquadrate shining basal spot, the sides shining on the posterior third. Third segment reddish brown, almost the posterior third whitish, the white color produced broadly forward in the middle almost to the basal third of the segment. Fourth segment yellowish, and with brownish-ochreous pollen, basally with a very large whitish spot which extends along the sides to the apical fourth of the segment and inwardly to the median fifth, the inner ends pointed, the posterior border gently convex. Fifth and sixth segments shining rusty reddish or pale ferruginous. Venter yellowish brown, thinly pollinose.

Described from one female from Cameroon, Africa (Thaxter No. 2715).

Diasemopsis albifacies, new species

This species is most nearly related to *quadrata* but the wholly brown pollinose mesonotum at once distinguishes it, while the face is also much paler in color. Length, 5 to 5.5 mm.; width of head, 3.5 mm.

MALE.—Head pale yellow, whitish pollinose; face broad, gently convex in profile, longest below, unarmed; front smooth. Eye-stalks brown to black, very thinly brown pollinose; tubercle situated near the basal third, not as long as wide, the seta very long; postocular seta strong; antennæ reddish, the arista mostly black. Ocellar triangle black. Proboscis and palpi yellow. Face slightly concave just above the oral margin, with moderately abundant pale yellowish hair.

Thorax dark ferruginous, the mesonotum and scutellum thickly brown pollinose; collar reddish yellow. Scutellar spines more or less reddish on the apical two-thirds, long and gently curved.

Legs reddish yellow; coxæ, anterior trochanters, base of anterior femora, a broad, preapical band on the anterior four femora, and the basal fourth of the posterior tibiæ, brownish, the posterior four femora sometimes brownish on the basal third or more. Anterior femora strongly swollen, with the usual two rows of stout ventral setæ and with bristles on the apical half of the anteroventral and posteroventral surfaces, the posteroventral surface with three fine bristly hairs on the basal half.

Wings hyaline, with amber colored fasciæ. The median fascia rises at the second vein and extends almost to the posterior border of the wing, being expanded in the middle so that it extends between the anterior and posterior cross-veins; apex of the wing broadly dark amber-colored between the second and fourth veins. Halteres reddish.

Abdomen brown and yellowish, with brown, white and brownish-yellow pollen. First segment brown pollinose, broadly shining in front and on the lateral third behind, the posterior fourth white pollinose on the median third or slightly more. Basal fourth of the second segment and a very large, subtriangular spot on either side apically, white pollinose, the small anterior triangles shining, the segment mostly brown pollinose. Third segment brown pollinose on the basal two-thirds, the apical third pale in ground color and with pale-yellow pollen which is produced broadly forward to the basal third along the median line. Fourth segment mostly pale in ground color and with brownish-yellow pollen, the anterior angles each bearing a large, transverse, yellow pollinose area. Fifth and sixth segments shining ferruginous.

FEMALE.—Differs sexually.

TYPES.—Holotype, male, Cameroon, allotype, female, Sa Jsabel, Fernando Po, February 9, 1900 (L. Conradt), in Deutsches Entomologisches Museum. Paratypes: female, Cameroon (Conradt), in American Museum of Natural History; female, Mayumbe, Makaia N'Tete, Congo, July 1917 (R. Mayné), in Musée du Congo Belge; and three males, Cameroon.

Diasemopsis interrupta, new species

The characters in the key are sufficient for the ready recognition of this pretty little species. The head bears rather numerous long hairs and the coxæ and femora are darker than in related species, while the mesonotum is wholly brown pollinose. Length, 4 mm.; width of head almost 3 mm.

MALE,—Head and base of eye-stalks reddish yellow, the middle of the front somewhat brownish, the whole pale pollinose; eye-stalks brown, becoming black apically, clothed with brown pollen and sparse hair; median seta-bearing tubercle very strong, three times as high as thick, the seta long and gently curved; postocular

seta strong. Antennæ luteous, the long arista black except at its base. Front without ridges or depressions; face gently convex, most prominent below, without teeth. Proboscis and palpi yellowish.

Thorax shining black, the pleural spines brownish red; mesonotum and scutellum densely brown pollinose; scutellar spines brownish, becoming brownish red apically, long and curved, the apical bristle missing.

Coxæ and femora reddish brown, the trochanters, bases of the femora and the tibiæ and tarsi reddish yellow, the posterior tibiæ somewhat darker than the others. Anterior femora rather strongly swollen, beneath with two rows of short setæ extending from near the base to the apex, anteroventrally with three or four long bristles, posteroventrally with a row of bristles and bristly hairs on the whole length; all the femora with fairly long hair.

Wings cinereous hyaline and hyaline, with brownish-amber markings. The dark markings form a cloud along the anterior cross-vein, an incomplete, moderately broad fascia bordered exteriorly by the posterior cross-vein and a cloud on the apex of the wing which is darkest between the second and third veins but extends distinctly to the fourth. Halteres yellow.

Abdomen black or brownish black, with brown and white pollen. First segment shining black on almost the anterior third, the apex broadly white pollinose in the middle, with a rectangular shining black spot on either side, the median half brown pollinose, but in some lights with a whitish sheen. Second segment blackish pollinose, in some lights with a whitish sheen, a large, suboval basal spot and a large, subrectangular apical spot on either side, white, the sides in front and posteriorly, shining black. Third segment brown pollinose, with conspicuous whitish sheen, the apical, third white pollinose, the pale band excised in the middle by an anterior triangle which extends half-way to the posterior border; posterior corners of the segment shining brown or reddish. Fourth segment shining brownish red, the basal half whitish pollinose laterally, more brownish yellow in the middle, sometimes with the narrow apex and a median triangle also pollinose. Fifth and sixth segments shining black, the fifth with a white triangle on either side at the base. Venter brownish, the apical three sternites pale pollinose.

FEMALE.—Differs only sexually.

TYPES.—Holotype, male, Cameroon (Thaxter No. 2720); allotype, female, Cameroon; Paratypes: four males and one female, Cameroon.

Diasemopsis elongata, new species

An elongate, slender species; the head reddish; thorax black; abdomen brown; wings brownish yellow, brownish on the apex; oral spines long, horizontal. Length, 5.5 to 7.5 mm. Width of head: male, 5.5 to 11 mm.; female, 5.4 to 8 mm.

MALE.—Head rusty reddish, the vertex and eye-stalks reddish brown, the frontal groove black. Front with a broad, median raised area extending from the ocelli to the frontal groove and with two broad, low ridges on either side. Ocellar tubercle black. Face most prominent at upper fourth, receding below; oral spines and palpi reddish brown. Spines of the eye-stalks strong. Antennæ reddish, with black arista.

Mesonotum, scutellum and almost the upper half of the pleura, brown pollinose, the pleura below and the pectus with gray pollen. Prothorax rather long, shining black except on the sides, the humeri narrowly shining behind. Hair of thorax fine,

pale, not conspicuous, notopleural bristle slender. Spines of thorax and scutellum brown, the latter sometimes reddish in the middle, with sparse black hair, twice as long as the scutellum, straight, the apical bristle fine, two-fifths as long as spine.

Legs shining rusty reddish, the coxæ and broad base of femora, yellow; femora with brown tinge on apical fourth; anterior and posterior tibiæ with a broad, basal and apical brown band, the middle tibiæ somewhat darkened basally. Tarsi reddish yellow, the anterior tarsi pale yellowish with the basal segment reddish brown.

Wings with strong luteous tinge, the middle darkened on its whole length, the apex broadly brownish.

Abdomen brown pollinose, the apices of the segments less thickly pollinose or with brownish yellow pollen, rarely the second and third segments very narrowly yellowish, the apical segments less thickly pollinose on sides, the anterior margins of the third and fourth segments broadly almost bare on the broad sides. Genitalia yellowish brown.

FEMALE.—Differs in having shorter eye-stalks.

TYPES.—Holotype, male, Lenga Town, Liberia, August 15, 1926; allotype, female, Cameroon. Paratypes: male, Du River Camp No. 3, Liberia (Jos. Bequaert); male, Kikionga, Mayumbe, Congo, July 24, 1926 (A. Collart), in Musée du Congo Belge; and eleven males and twelve females, Cameroon.

Diasemopsis disconcerta, new species

Related to *elongata* new species, but with the humeri shining black, the eye-stalks shorter and with a shining median frontal carina which has no trace of pollen. Length, 7 mm. Width of head; male, 8 mm.; female, 6.5 mm.

MALE.—Head dark reddish, thinly pale pollinose, sparsely haired; frontal seam and the posterior part of the ocular swelling black. Face gently concave, as prominent above as at the gently produced oral margin; oral spines long and strong, almost horizontal, brown in color. Front with about five longitudinal, broad low convex areas, the median ones most prominent, those at the base of the eye-stalks rather weak. Swollen part of eye-stalks brown pollinose; postocular bristle present. Antennæ dull reddish yellow, the basal segments darkened. Palpi and proboscis yellowish.

Thorax black; mesonotum thickly brown pollinose; humeri and collar shining black; pleura cinereous pollinose, the mesopleura with the pollen mostly brown. Spines of scutellum ferruginous, apparently without apical seta.

Legs reddish; posterior four coxæ brown, the apices of the tibiæ more or less brownish. Anterior femora moderately swollen, the tiny robust setulæ limited to the apical four-fifths, each side of the ventral surface with three bristles on the apical third.

Wings tinged with brownish yellow, the apex broadly brownish. Halteres yellow.

Abdomen brown, thickly brown pollinose; tips of second and third segments and the broader bases of the third and fourth, thinly gray pollinose, subshining. Venter cinereous pollinose.

FEMALE.—Wings with brownish clouding along the third vein; gray segmental incisures narrower, not conspicuous.

TYPES.—Holotype, male, Liberia (Thaxter No. 3591); allotype, female, Cameroon (Thaxter No. 2716). Paratypes: female, Cameroon (L. Conradt), in Deutsches Entomologisches Museum; nine males and eight females, Cameroon.

Diasemopsis dejectus, new species

Related to *æthiopica* Rondani but at once distinguished by the long, strong bristles on the eye-stalks. In *æthiopica* these bristles are very short and weak. Length, 5.75 mm.; width of head, 4.5 mm.

FEMALE.—Head brown, cinereous pollinose; eye-stalks and sides of head ferruginous, the apex black, their thin pollen brownish. Front with three broad longitudinal depressions, the median carina rather strong, the other raised areas only slightly convex and broad. Bristle of the eye-stalks strong, situated half-way between the base and the base of the antennæ on a low tubercle; postocular bristle strong; antennæ dull reddish, brown above, the arista brown except basally. Face most prominent at the upper fourth, scarcely receding below, the oral margin not produced. Proboscis and palpi reddish. Head with short, sparse hair.

Thorax black; mesonotum, scutellum and upper border of the pleura brown pollinose, the pleura cinereous pollinose except above. The brown pollen is of two shades, the darker shade forming a pair of broad, narrowly separated median vittæ and two roundish spots on either side. Scutellar spines reddish, elongate, with a very short apical seta.

Coxæ, basal two-thirds of the posterior four femora, apical two-thirds of the middle tibiæ and a broad median band on the posterior pair, reddish yellow; anterior femora, apical third of the posterior four tibiæ, basal third of the middle tibiæ and the anterior and posterior pair, and the basal two or three segments of the tarsi brown or brownish, the apical tarsal segments reddish; anterior femora perhaps more brownish red than brownish, greatly swollen, with the usual bristles and sparse hair.

Wings cinereous hyaline with extensive yellowish-brown markings. Across the middle of the wing the brown markings begin in front as a narrow fascia and spread in the discal cell so as to extend from a point well before the anterior cross-vein to the posterior cross-vein and are continued in the apical cell to the apex of the wing; the veins reaching the wing margin are broadly clouded with brown for a considerable distance, the color being more intense at the apices of the veins. Halteres pale yellow.

Abdomen brown, brown and white pollinose, the lateral margins more or less shining. The base of the second segment bears a laterally widening white pollinose fascia which scarcely reaches the base in the middle and is more widely separated laterally, while, on either side of the posterior border is a transverse, rather hemicircular white spot which is moderately separated from the lateral margins. Third segment on either side in front with a rather small, transverse, subtriangular white spot; on the posterior border with a narrow, laterally tapering, broadly interrupted white fascia. Fourth segment on the basal half of each lateral third with a rectangular reddish spot covered with whitish pollen, the fifth segment with a basal white pollinose triangle on either side. Sixth segment reddish in the middle and at the apex.

TYPE.—Female, Elisabethville, Lubumbashi, Congo, July 22, 1920 (Dr. M. Bequaert), in Musée du Congo Belge.

Diasemopsis munroi, new species

Related to *dejectus*, new species, but the front bears numerous anteriorly convex grooves and ridges in front of the ocelli and the median cloud on the wings is only faintly indicated. Length, 5 to 5.3 mm.; width of eye-stalks, 3.5 to 4 mm.

FEMALE.—Head reddish brown, thinly cinereous pollinose, the hair short and fine. Bristle of the eye-stalk strong, situated closer to the antennæ than to the base of the stalk; postocular bristle long. Antennæ reddish, broadly brown above. Broad middle of the front in front of the ocelli with many anteriorly arched, narrow ridges. Face most prominent at the middle, the oral margin slightly produced; face wide above. Palpi brown.

Thorax black, the dorsum brown, the pleura cinereous pollinose; no notopleural bristle. Scutellar spines brown, their setæ half their length. Prothorax with the sides and anterior border broadly shining black.

Legs brownish red, the femora darker apically, the tibiæ reddish brown, the anterior pair blackish; tarsi yellowish, the two basal segments of the anterior pair brown. Anterior femora very strongly swollen, and with more brownish tinge than the others.

Wings cinereous hyaline, the apical fifth brownish; along the veins on the middle of the wings faintly clouded with brown. Halteres pale yellow.

Abdomen blackish, thickly brown and white pollinose, the white pollen tessellate. First segment brownish yellow, with a dark median vitta. Second segment with the basal two-fifths, the very broad sides and a very large spot on either side behind, white pollinose, but only appearing partly white from any given angle. Third segment with a broadly interrupted basal band and very broad, transverse spots on the posterior border, whitish, the posterior spots oblique on their inner border and very narrowly connected on the apex of the segment. Fourth segment mostly white, the broad apex and median line brown; the following segments with yellowish brown pollen. On account of the tessellate nature of the white pollen only part of the areas described as white will appear white from any given angle. In certain views the pollen is quite silvery.

TYPES.—Holotype, female, Barberton, Transvaal, October 10, 1919 (H. K. Munro), returned to Mr. Munro; paratype, female, Barberton, August, 1913 (L. S. Hardenberg), in American Museum of Natural History.

Diasemopsis amorus, new species

Superficially very simliar to *obstans* Walker but at once distinguished by the mostly shining thorax. In *obstans* the mesonotum is opaque brownish and the apical abdominal segments have a slight cinereous sheen. The front in the two species is very similarly marked. Length, 5 to 5.6 mm. Width of head: male, 5.5 to 6.75 mm.; female, 4 mm.

MALE.—Head brown, thinly whitish pollinose; middle and upper border of the face and the sides of the head posterodorsally, reddish. Front in the middle crossed by two broad, anteriorly arched grooves on the upper half, the middle more or less strongly longitudinally carinate; on either side with two rather deep grooves. Eye-stalks brown pollinose apically, the bristle arising from a very low tubercle; postocular bristle long. Antennæ dull reddish, the third segment above, and the arista, brown. Face most prominent just below the middle, slightly concave on lower half, sparsely haired. Proboscis and palpi brownish.

Thorax black, the mesonotum slightly dulled, its posterior border and the scutellum brown pollinose; pleura cinereous pollinose; collar shining black above. Scutellar spines long, ferruginous, apparently without bristle.

Legs brownish red or ferruginous, the coxæ trochanters, base of the posterior four femora and the apical tarsal segments, yellowish; tarsi reddish basally. Anterior femora rather slender, with very fine sparse hair and the usual bristles.

Wings hyaline, the apical fourth and a broad median band amber-colored or pale yellowish-brown; the median fascia is narrow between the third and fourth veins but in the two following cells it extends from the posterior cross-vein to slightly inside the anterior cross-vein. Halteres pale yellow.

Abdomen black, with black and white pollen, the lateral margins and apical segments shining black. The juncture of the first and second segments bears a very broad white band which is wider in the middle than the preceding opaque fascia and is strongly narrowed laterally. Apex of second segment, in conjunction with the extreme base of the third segment laterally, with a very large, subtriangular white spot on either side which is divided into two distinct sections, each of which appears silvery from a different angle. Third segment shining black on the apical two-thirds, the apex rather narrowly white pollinose. Fourth, fifth, and sixth segments shining black, the fourth with a large, basal whitish triangle on either side. Venter brown, the apices of the second and third segments broadly cinereous.

FEMALE.—Shows only sexual differences.

TYPES.—Holotype, male, allotype, female, and one male paratype. Umtali, Southern Rhodesia, September, 1927 (Alexander Cuthbertson). The paratype has been returned to Mr. Cuthbertson.

Diasemopsis thaxteri, new species

Related to *amorus* new species but at once distinguished by the practically unicolorous wings and the presence of a single, broad transverse ridge immediately in front of the ocellar triangle. Length, 6 mm.; width of head, 5.8 mm.

FEMALE.—Head blackish brown, with dark reddish areas, the face and front cinereous pollinose; eye-stalks reddish, the apex black, brown pollinose; bristle of the eye-stalk, long, arising from a low tubercle; postocular bristle strong. Antennæ reddish, brown above. Front with a low, broad, transverse swelling immediately in front of the ocelli and on either side with two distinct, but low, approximate ridges. The broad central portion of the front is rather shining and is bordered by the ridges which are pollinose. Face convex, most prominent just below the middle, the oral margin not at all produced; hair short and fine.

Thorax castaneous, the dorsum blackish in ground color. Pollen cinereous, the broad middle of the mesonotum and the posterior border, brown. Prothorax shining except below; scutellar spines dark reddish. Notopleural bristle weak, yellowish.

Coxæ, basal half or more of the posterior four femora, practically all of the front pair, middle tibiæ and all the tarsi except the first segment of the anterior pair, yellowish; femora apically, anterior tibiæ and first segment of their tarsi and the posterior tibiæ, except the base and a broad median band, reddish brown or brownish red. Anterior femora strongly swollen.

Wings cinereous hyaline, with a slight grayish or luteous tinge on the apical half, but almost unicolorous. Halteres very pale yellowish.

Abdomen blackish in ground color, yellowish-brown pollinose, the fourth and following segments with thin, cinereous pollen, the entire broad sides of the abdomen appearing cinereous or whitish in some lights; there are rather poorly defined whitish

fasciæ on the segmental incisures between the first and fourth segments, the bands strongly widening laterally where they more or less clearly fuse with the pale pollen of the sides.

TYPES.—Allotype, female, and one paratype, Gross Batangan, Cameroon.

Diasemopsis pleuritica, new species

Related to *nebulosa* but with the anterior femora greatly swollen and differently colored abdomen. Length, 6 mm.

FEMALE.—Head shining brown, the eye-stalks dull rusty brown above. Front rather smooth, with distinct longitudinal ridges on lower half toward the sides; face evenly convex; palpi deep brown; hair short, fine, erect. Antennæ reddish, the third segment brown above; arista black. Bristles of eye-stalks strong, the median one arising from a strong tubercle.

Mesonotum brown pollinose, the prothorax, a large spot extending from the humeri to the suture, a large, ventrally convex spot on the mesopleura and the sternopleura largely, shining brown; pleura gray pollinose. Hair not conspicuous, notopleural bristle extremely weak or absent; intra-alar bristle fine. Hypopleural spines long, brown; scutellar spines brown, twice as long as the scutellum, the fine apical bristle about one-fourth as long as spine.

Legs reddish; coxæ, base of femora and apical four segments of front tarsi yellow; posterior four femora on the apical third, all the tibiæ and the basal segment of anterior tarsi, brownish.

Wings cinereous hyaline, with very faint, large median cloud and a streak behind the anal cell, brownish tinged; apex of wing broadly brownish, the brown color extending toward the base behind the third vein and quite weak behind the fourth vein.

Abdomen opaque brown; broad sides of first and second segments, sides of the third segment more broadly behind and the lateral third of the remaining segments, shining brown. Second segment with two oval, oblique, medianly contiguous spots and a large transverse, anteriorly convex spot on either side posteriorly, chalky white; the base of the third segment with long, transverse basal triangles, similar but much smaller spots on the posterior border and larger, less triangular spots on the base of the fourth segment, chalky white. Venter with yellowish brown pollen.

HOLOTYPE.—Female, Zambi, Congo (Dr. J. Bequaert), in Bequaert collection.

Diasemopsis nebulosa, new species

Blackish, the head reddish brown; legs largely reddish yellow. Length, 5 to 7.5 mm. Width of head: male, 4.25 to 8 mm.; female, 4 to 6 mm.

MALE.—Head reddish brown or dark brownish-red, thinly brown pollinose, the front and lower part of the face and cheeks shining; hair brownish, fine and rather short. Eye-stalks with the median bristle long and strong, arising from a strongly raised tubercle, the bristle behind the eye rising from a low tubercle and strong. Front with a strong, broad ridge extending from the ocelli to the anterior margin and indications of two broad lateral ridges; face prominent in the middle, gently concave below; oral spines absent. Palpi brownish red or reddish. Antennæ reddish, the third segment brown above; arista black.

Thorax with brownish pollen, the propleura and a spot on the anterior upper corner of the mesopleura shining black; a broad band extending over the meso-

pleura to the anterior coxæ, the pectus and posterior half of the sternopleura gray pollinose. Hair sparse, fine; notopleural and intra-alar bristles fine; scutellar spines, brown, twice as long as scutellum, the apical bristle fine, about one-third as long as spine. Hypopleural spines brown, long and pointed.

Coxæ and basal half to two-thirds of the femora reddish yellow, the apical third of the femora brown or ferruginous, the posterior pair sometimes dark almost to the base on the anterior and posterior surfaces, the apices of all the femora reddish. Anterior tibiæ black or ferruginous, the posterior pair, except the base and a median band, the first segment of the front tarsi and an obscure, broad sub-basal band on the middle tibiæ, ferruginous; middle tibiæ and the tarsi reddish.

Wings cinereous hyaline; with a large median reddish-brown band extending from the origin of the third vein to opposite the posterior cross-vein and back to the fifth vein, forming very wide clouds on the veins; a narrow cloud of the same color usually present behind the anal cell, the apical fifth of the wing brown, this color extending very broadly in the apical cell toward the median dark area. The median cloud extends only about half-way across the submarginal cell.

Abdomen opaque brownish or reddish brown; second to fourth segment each with a large, basal shining triangle on either side, those on the second segment longitudinally placed, the others transverse; immediately behind the spots on the second segment is a large, semi-circular chalky white pollinose spot. Venter gray pollinose.

FEMALE.—Differs in having the triangles on the third and fourth abdominal segments white pollinose, eye-stalks shorter and the face usually more reddish.

TYPES.—Holotype, male Cameroon, West Africa (Thaxter No. 2718); allotype, female, Cameroon, (Thaxter No. 2717). Paratypes: male, Mayumbe, Gauda Buku, August 4 (A. Collart), in the Musée du Congo Belge; male and two females, Ngomo, Congo, February 2, 1927 (J. Bequaert); female, Cameroon (Conradt), in Deutsches Entomologisches Museum; ninety-two males and sixty-five females, Cameroon.

This series includes a few teneral specimens. These have the thorax castaneous or ferruginous with the mesonotal pollen unusually thin and at first glance would seem to represent a different species. However, the excellent series enables me to definitely associate them with the others. I find, too, that there is a slight variation in the density of the pollen on the sides of the mesonotum in this species, some of them therefore appearing more shining than is usual.

Diasemopsis conjuncta, new species

This species is closely related to *nebulosa,* new species, but the broadly connected brown markings on the wing will at once separate it. Length, 5.25 to 7.5 mm. Width of head: male, 4 to 7.5 mm.; female, 4 to 6 mm.

MALE.—Head brown, thinly brownish pollinose, the upper surface of the eye-stalks ferruginous. Front with a rather strong median carina and with a conspicuous groove toward either side. Eye-stalks slender, the strong bristle arising from a low but conspicuous tubercle; postocular bristle arising from a low tubercle. Antennæ reddish, the second segment partly and the upper border of the third broadly brown; arista brown. Face perpendicular on lower two-thirds, the oral margin slightly produced. Proboscis and palpi reddish yellow. Hair short and very sparse.

Thorax black, brown pollinose, the middle of the pleura very broadly gray; collar shining black. Scutellar spines brown, a little paler apically.

Legs reddish yellow; anterior tibiæ brown; posterior tibiæ a little darkened. Anterior femora not greatly enlarged, the bristles on the apical fourth weak; apices of posterior four femora usually broadly brownish.

Wings cinereous hyaline with brown markings. Apical fifth of the wing brown, very broadly connected along third vein with the median brown area which extends from the posterior cross-vein to inside the posterior cross-vein, does not reach forward more than half-way from the third toward the second vein and is broadly separated from the posterior border of the wing except along the fifth vein. Halteres pale yellow.

Abdomen brown, brown and white pollinose. Second segment at the base with a large, subrectangular shining spot which is produced inward from its anterior half, the shining spots separated by white pollen, the apex of the segment narrowly subshining, obscurely whitish pollinose. Third segment whitish pollinose on the basal sixth, toward the sides more widely shining white pollinose. Fourth segment with wider basal whitish band than the third, the following segments inclined to be shining reddish brown.

TYPES.—Holotype, male, Cameroon, West Africa (Thaxter No. 2304); allotype, female, Cameroon. Paratypes; Cameroon (Conradt), in Deutsches Entomologisches Museum; twenty-five males and twenty females, Cameroon.

Diasemopsis hirsuta, new species

An unusually hairy species with extensively brown wings. Length, 6.5 mm.; width of head, 6 mm.

MALE.—Head brown, with brown pollen and rather abdundant black hair. Front with a strong median carina and a broad, convex longitudinal ridge on either side. Eye-stalks with the bristle long, arising from a slight tubercle, the postocular bristle long and fine. Antennæ reddish, dark above, the arista brown. Face rather strongly concave, most prominent near its middle, perpendicular below, the oral margin not projecting. Palpi and proboscis brownish red.

Thorax black, moderately brown pollinose, the sternum with cinereous tinge; collar shining black. Hair more abundant than usual; notopleural bristle long, but fine. Scutellar spines reddish, long, the fine apical setæ as long as the spines.

Coxæ, trochanters, broad bases of the femora and all the tarsi, reddish yellow; femora brownish red; tibiæ reddish brown. Femora with long hair, the anterior pair moderately swollen and without distinct bristles apically.

Wings with slight brownish tinge, brown on more than the apical half except in the marginal cell, darker along the veins. Halteres brownish red.

Abdomen brown, brown pollinose, the incisures of the first to fifth abdominal segments faintly and narrowly cinereous; pollen on the very broad sides of the abdomen of a somewhat paler brown color.

FEMALE.—Differs only sexually.

TYPES.—Holotype, male, Cameroon, West Africa; allotype, female, Cameroon. Paratypes: female, Mayumbe, Kikionga, Congo, July 24, 1926 (A. Collart), in Musée du Congo Belge; two males, Cameroon.

Diasemopsis æthiopica Rondani

Diopsis æthiopica Rondani, 1873, Ann. Mus. Civ. Genova, IV, p. 289.
Diasemopsis æthiopica Rondani, 1875, Ann. Mus. Civ. Genova, VII, p. 442.
Diasemopsis varians Eggers, 1916, Sci. Res. Zool. Exp. Brit. E. Afr., I, No. 6, pp. 12, 17. (f).
Diasemopsis veliventris Hendel, 1923, Wien. Ent. Zeitg., XL, p. 41.
Diasemopsis elegantula Brunetti, 1926, Rev. Zool. Afr., XIV, p. 83.

A variable species in the female sex, the abdomen often largely reddish, but readily recognized by the very small median bristle on the eye-stalks. Length, 5.5. to 6.5 mm.; width of head, 5.6 to 7.5 mm.

Female.—Head reddish, the face more or less, and the front and eye-stalks, brown; pollen whitish and conspicuous on the face, brownish on the front and eye-stalks, although there is a stripe of cinereous pollen between the base of the antennæ and the eyes. Front with a broad, very gently convex ridge in front of the ocellar triangle. Bristle of the eye-stalk minute; postocular bristle moderately strong. Antennæ reddish, darker above; arista brown. Face convex, gently concave above the oral margin, the anterior oral margin not produced. Hair short and fine, moderately abundant. Palpi and proboscis brownish.

Thorax black, the dorsum brown pollinose; prothorax and pleura cinereous pollinose; collar with a very small, transverse, shining black spot on either side in front or with a rather narrow lateral stripe. Scutellar spines rather short, the apical setæ as long as the spines.

Coxæ, trochanters, tarsi, anterior femora and basal third to half of the posterior four femora reddish yellow, the femora reddish brown apically or even brown; tibiæ reddish brown to brown, the basal tarsal segments brownish. Anterior femora strongly swollen.

Wings cinereous hyaline, the apex narrowly and diffusely brownish; across the middle with a slightly darkened area, but this is not always evident.

Abdomen opaque, black, the disc of the third segment usually with a reddish tinge, sometimes bright reddish, the second and fourth segments sometimes similarly colored; pollen blackish, brown, white and dark reddish. First segment white pollinose except at the apex, the second white pollinose on the sub-basal third and on large posterior triangles, the remainder opaque black, brown or reddish. Third segment with large, subtriangular whitish spots on either side at the base and with the apex narrowly whitish, the apical fascia usually more or less broadly interrrupted in the middle, the remainder of the segment often reddish or at least with reddish tinge, sometimes wholly dull black. Fourth segment with a pair of rather narrowly separated whitish spots occupying more than the basal half of the segment at the sides, but narrowed inwardly, and the apex, white pollinose, the remainder usually dull black, but sometimes reddish. Fifth segment with very much smaller, triangular basal spots and the extreme tip whitish, the disc black to obscurely reddish. Sixth segment dull brownish.

Male.—Abdomen rarely reddish on the fourth segment, otherwise like the female except that it is a little more slender and has longer eye-stalks.

This species was originally described from Erytrea and is the type of the genus. The original description is very good and the species is easily

recognizable from it. There are very few *Diasemopsis* with the setæ on the scutellar spines as long as the spines and it seems strange that the species should not have been identified previously. In Brunetti's unfinished manuscript of the Diopsidæ the species was placed in the section with armed oral margin, which seems very strange since Rondani mentioned no oral spines. Brunetti also failed to recognize *varians* Eggers when he described *elegantula* in 1926, since he obviously relied too much upon the illustrations, as may be determined by his redescription of *silvatica* Eggers as *apicenotata*. Egger's figures do not show all the details contained in the descriptions and there is scarcely a trace of the brown spot on the apex of the third vein in *silvatica*, although it is actually very conspicuous and was described by Eggers.

For a long time I have considered *æthiopica* and *varians* to be distinct, basing the separation on the length of the eye-stalks, but I find that the difference in length is more apparent than real since there seems to be a tendency for very small individuals to have relatively shorter eye-stalks.

My specimens of *æthiopica*, numbering more than sixty, are from eastern Congo, upper Congo region, Liberia, Cameroon, Nigeria, and South Africa.